



Western



Australia.

## DEPARTMENT OF AGRICULTURE.

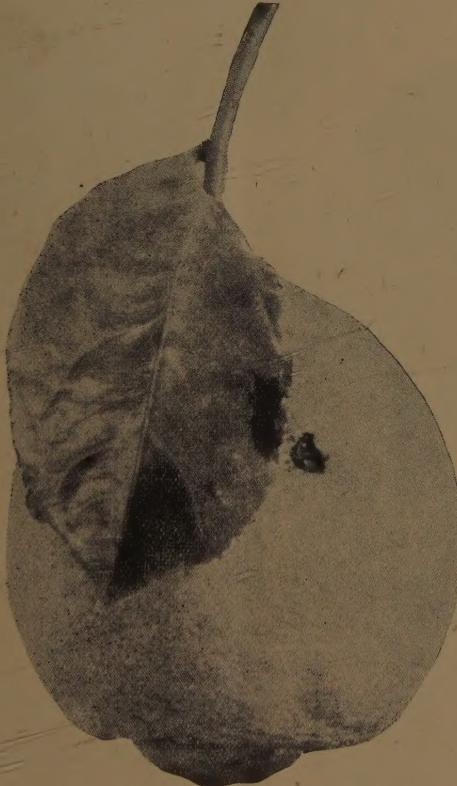
## CITRUS PIT.

(Pseudomonas citriputeale, C. O. Smith.)

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This is an old established bacterial disease, which in most seasons is of little importance.

First described by Smith in California in 1913,\* it was recognised in South Australia in 1924,† and is now recorded for the first time for this State.



Lemon fruit and leaf with Pit.  
(After Fawcett, Horne, & Camp.)

\* Smith, C. O.—Black Pit of Lemon—Phytopathology IHL, 1913, pp. 277–281.

† Lewcock, H. K.—Prelim. Note on a Citrus Bacteriosis in South Australia—A.A.A. Science XVII., 1926, p. 746.



Lemons with Pit.

Lemons showing rotting due to fungi following Pit

Citrus Pit occurs most commonly on lemon fruits, and to a lesser extent on oranges and mandarins. With us lemon leaves are apparently more frequently attacked than those of oranges or mandarins, though the reverse



Oranges with Pit.



appears to be the case in California.† There the twigs are also affected, and to this and the leaf attack the name Citrus Blast has been given. Twig attack has not been noted here.

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† Fawcett, H. S., Horne, W. T., and Camp, A. F.—Citrus Blast and Black Pit—University of California, Agric. Expt. Stn. of College of Agric. Technical paper 5, 1923, pp. 1-24.

On lemon fruits the spots are depressed, dry, circular or oval, reddish-brown, brown or black, from very small up to three-quarters inch in diameter. Under wet conditions, especially the abnormally wet conditions of this year, secondary organisms such as Blue Mould, Dieback (*Colletotrichum gloeosporoides*) and Sour Rot (*Oospora citri-aurantii*), may extend the affected area over one-half the fruit or more, and cause a soft rotting. Under more normal conditions the spots are hardly conspicuous enough to seriously affect the sale of fruit.

On oranges and mandarins the spots are usually reddish-brown and smaller. They may run together, however, and form irregular dry brown areas. The past winter was associated with a good deal of infection on the orange, but for the past few seasons mandarins, especially Beauty of Glen Retreat, have been more generally affected.

The spots are confined to the rind of the fruit, and the edible portions are not affected unless secondary infection follows the primary attack. Indeed it may be said that the disease is only of importance when climatic conditions favour the secondary rotting organisms.

On leaves, infection is indicated by a blackened area, usually on the side or tip but occasionally central. There is a similarity to the leaf trouble caused by Brown Rot, but the edges of the blackened areas are less distinctly defined. The affected areas tend to dry and crack, and the leaves fall readily.

Experiments indicate that infection can be readily obtained when the tissues have been broken by pricking or otherwise injured. Attempts to infect sound fruit have failed. This is in conformity with the American experience ‡ that the bacterium is essentially a wound parasite rarely, if ever, able to penetrate sound tissues. Fresh scratches and rubbings while the fruit is wet, with moderately low temperatures, ensure ready infection. It follows, therefore, that the trouble will be greatest in orchards exposed to much wind during wet winters such as the past.

American investigations have shown that bushy compact trees are less liable to wind injury than those of more straggling growth. It has also been found that a spraying with a bluestone fungicide in the autumn is to a large extent effective. As this coincides with the April or May spraying recommended for Brown Rot prevention, we have a further argument for the use of Bordeaux (4.4.50) or Burgundy mixture (4.6.50) on citrus trees in the autumn.